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09/540,676	03/31/2000	Leslie E. Cline	42390.P7299	2061

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Dennis A Nicholls
Blakely Sokoloff Taylor & Zafman LLP
12400 Wilshire Boulevard
7th Floor
Los Angeles, CA 90025

EXAMINER

LEE, CHRISTOPHER E

ART UNIT

PAPER NUMBER

2189

DATE MAILED: 12/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,676

Applicant(s)

CLINE, LESLIE E. *DL*

Examiner

Christopher E. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-15 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-15 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of the Amendment filed 25th of October, 2002. Claims 1, 8, 9, 11, 12, 14, 15, 17 and 18 have been amended; claims 2 and 16 have been canceled; and claims 19-22 have been newly added. Currently, claims 1, 3-15 and 17-22 are pending in this application.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Note reference sign 923 on page 17, line 19 and page 18, lines 10 and 22.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 3-11, 15 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. [US 6,131,134; hereinafter Huang] in view of Pollard et al. [US 5,754,870; hereinafter Pollard].

Referring to claim 8, Huang discloses an apparatus, comprising: a first resistor with a first end and a second end (pull-up resistor 340 of Fig. 3); a switch (switch 330 of Fig. 3) coupled to said first end of said first resistor and a bias voltage (3.3V in Fig. 3); a detach control signal wire (switch controlling signal arrow from converting circuit 310 to switch 330 in Fig. 3) coupled to said switch at a near end of said data bus (See Fig. 3; i.e., detach control signal wire and switch 330, resistor 340 and data bus are

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located within USB converter 120 in Fig. 3); and a data bus wire (USB interface D+ of Fig. 3) of a data bus (USB interface D+ and D- in Fig. 3) coupled to said second end of said first resistor (See Fig. 3).

Huang does not teach said switch receives a detach control signal (i.e., switch controlling signal) sent from a far end (computer system 110 of Fig. 1) of said data bus.

Pollard discloses a power management of a computer plug-in card having a remote data link 20 (Fig. 2), wherein a switch (switch 46 of Fig. 2) receives a detach control signal (command output 52 of Fig. 2) sent from a far end (host computer in Fig. 2) of a detach control signal wire (switch control line 54 of Fig. 2), which is coupled to said switch at a near end (plug-in card 30 of Fig. 2) of said detach control signal wire. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received a detach control signal from a far end of a detach control signal wire, as disclosed by Pollard, in said apparatus, as disclosed by Huang for the advantage of avoiding added power consumption in said apparatus (i.e., computer system; Pollard) by implementing means for generating detach control signal in logic instructions at said far end of said data bus rather than hardware converting circuit (i.e., hardware elements; Pollard) at said near end of said data bus (See Pollard, col. 5, lines 17-21).

Referring to claim 1, the method steps of claim 1 are inherently performed by the apparatus of claim 8, and therefore the rejection of claim 8 applies to claim 1.

Referring to claim 3, Huang discloses said method of claim 1, wherein said first resistor is configured as a pull-up resistor (pull-up resistor 340 of Fig. 3).

Referring to claim 4, Huang discloses said method of claim 3, further comprising detecting said switching of said biasing voltage (See col. 6, lines 30-35).

Referring to claim 5, Huang discloses said method of claim 4, further comprising determining a logically detached state responsive to said detecting (See col. 6, lines 28-30).

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Referring to claim 6, Huang discloses said method of claim 1, wherein said detach control signal is responsive to a wake-up signal (transferred signals between a non-PnP interface and a USB interface; See col. 3, lines 17-20).

Referring to claim 7, Huang discloses said method of claim 6, wherein said detach control signal (i.e., switch controlling signal) is asserted (i.e., state of switch controlling signal which causes switch 330 to be closed) when said wake-up signal (i.e., converted signal from the signals transferred between non-PnP interface and USB interface) is de-asserted (i.e., state of the converted signal which ultimately causes switch 330 to be closed).

Referring to claim 9, Huang discloses said apparatus of claim 8, wherein said switch may apply said bias voltage to said first end of said first resistor responsively to a detach control signal (switch controlling signal from converting circuit 310 in Fig. 3) on said detach control signal wire (See col.6, lines 23-27).

Referring to claim 10, Huang discloses said apparatus of claim 9, wherein said detach control signal is generated responsively to a wake-up signal (transferred signals between a non-PnP interface and a USB interface; See col. 3, lines 17-20).

Referring to claim 11, Huang discloses said apparatus of claim 8, wherein said data bus carries universal serial bus data (USB interface D+ of Fig. 3).

Referring to claim 15, Huang discloses an apparatus, comprising: means for providing a first resistor with a first end and a second end (pull-up resistor 340 of Fig. 3) coupled to a switch (switch 330 of Fig. 3) and said second end coupled to a data bus wire (USB interface D+ of Fig. 3) at a near end of a data bus (See Fig. 3; i.e., switch 330, resistor 340 and data bus wire are located within USB converter 120 in Fig. 3); means for controlling said switch with a detach control signal (switch controlling signal from converting circuit 310 in Fig. 3); and means for switching a biasing voltage from said resistor utilizing said switch (See col. 6, lines 23-27).

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Huang does not teach said detach control signal is sent from a far end of said data bus.

Pollard discloses a power management of a computer plug-in card having a remote data link 20 (Fig. 2), wherein a detach control signal (command output 52 of Fig. 2) is sent from a far end (host computer in Fig. 2) of a detach control signal wire (switch control line 54 of Fig. 2), which is coupled to said switch at a near end (plug-in card 30 of Fig. 2) of said detach control signal wire.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received a detach control signal from a far end of a detach control signal wire, as disclosed by Pollard, in said apparatus, as disclosed by Huang for the advantage of avoiding added power consumption in said apparatus (i.e., computer system; Pollard) by implementing means for generating detach control signal in logic instructions at said far end of said data bus rather than hardware converting circuit (i.e., hardware elements; Pollard) at said near end of said data bus (See Pollard, col. 5, lines 17-21).

Referring to claim 17, Huang discloses said apparatus of claim 15, further comprising means for detecting said switching of said biasing voltage (See col. 6, lines 30-35).

Referring to claim 18, Huang discloses said apparatus of claim 15, wherein said detach control signal is responsive to a wake-up signal (converted signal from the signals transferred between non-PnP interface and USB interface; See col. 3, lines 17-20).

Referring to claim 19, Huang discloses a system, comprising: a data bus (USB interface in Fig. 1 and 2) with a near end (side of USB converter 120 in Fig. 1) and a far end (side of computer system 110 in Fig. 1); a first circuit (USB converter 120 of Fig. 1), coupled to said near end (See Fig. 1), including a first resistor with a first end and a second end (pull-up resistor 340 of Fig. 3), a switch (switch 330 of Fig. 3) coupled to said first end of said first resistor and to a bias voltage (3.3V in Fig. 3), a data bus wire (USB interface D+ of Fig. 3) of said data bus (USB interface D+ and D- in Fig. 3) coupled to said second end of said first resistor (See Fig. 3), a detach control signal wire (switch controlling signal arrow from

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converting circuit 310 to switch 330 in Fig. 3) coupled to said switch to receive a detach control signal (i.e., switch controlling signal); and a second circuit (computer system 110 of Fig. 1), coupled to said far end (See Fig. 1).

Huang does not teach said second circuit sends said detach control signal.

Pollard discloses a power management of a computer plug-in card having a remote data link 20 (Fig. 2), wherein a switch (switch 46 of Fig. 2) receives a detach control signal (command output 52 of Fig. 2) sent from a second circuit (host computer in Fig. 2) at a far end of a detach control signal wire (switch control line 54 of Fig. 2), which is coupled to said switch at a near end (plug-in card 30 of Fig. 2) of said detach control signal wire.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have received a detach control signal from a far end of a detach control signal wire, as disclosed by Pollard, in said apparatus, as disclosed by Huang for the advantage of avoiding added power consumption in said system (i.e., computer system; Pollard) by implementing means for generating detach control signal in logic instructions at said far end of said data bus rather than hardware converting circuit (i.e., hardware elements; Pollard) at said near end of said data bus (See Pollard, col. 5, lines 17-21).

Referring to claim 20, Huang discloses said switch (switch 330 of Fig. 3) may apply said bias voltage (3.3V in Fig. 3) to said first end of said first resistor responsively to said detach control signal (switch controlling signal from converting circuit 310 in Fig. 3). Refer to col.6, lines 23-27.

Referring to claim 21, Huang discloses said detach control signal is sent in response to a wake-up signal (converted signal from the signals transferred between non-PnP interface and USB interface; See col. 3, lines 17-20).

Referring to claim 22, Huang does not disclose said wake-up signal is sent by said first circuit.

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Pollard teaches a wake-up signal (i.e., status output monitor signal 58 of Fig. 2) is sent by a first circuit (i.e., plug-in card 30 of Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have sent a wake-up signal from a near end of a first circuit, as disclosed by Pollard, in said system, as disclosed by Huang for the advantage of monitoring the operability of said near end of said bus (i.e., card-data link connector and remote data link 64 in Fig. 2; Pollard).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang [US 6,131,134] in view of Pollard [US 5,754,870] as applied to claims 1, 3-11, 15 and 17-22 above, and further in view of Decuir [US 5,781,028].

Referring to claim 12, Huang discloses all the limitations of claim 12 except that does not teach said data bus carries IEEE-1394 bus data.

Decuir teaches a conventional bi-directional transmission line using an IEEE 1394 standard (Fig. 4), wherein said data bus (transmission line 51 of Fig. 4) carries IEEE-1394 bus data (See col. 2, lines 23-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied said data bus wire, as disclosed by Decuir, to said data bus wire of said apparatus, as disclosed by Huang, for the advantage of a high speed of data transmission.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang [US 6,131,134] in view of Pollard [US 5,754,870] as applied to claim 1, 3-11, 15 and 17-22 above, and further in view of Takasu [JP 407,058,800 A].

Referring to claim 13, Huang discloses all the limitations of claim 13 except that does not teach a second resistor with a first end and a second end.

Takasu teaches a second resistor (terminating register R_2 of Fig. 1) with a first end and a second end, said first end coupled to said data bus wire (transmission line 9 of Fig. 1).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said second resistor, as disclosed by Takasu, in said apparatus, as disclosed by Huang, so as to provide effective termination on the bus.

Referring to claim 14, Takasu discloses said second end of said second resistor is coupled to signal ground (R₂ of Fig. 1 as a pull-down resistor; See col. 4, lines 30-31).

Response to Arguments

8. Applicant's arguments with respect to claims 1, 3-15 and 17-22 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant argument with respect to "the claims 1 and 8 are allowable because of the limitation such that a detach control signal wire of a data bus coupled to said switch at a near end of said data bus, to receive a detach control signal sent from a far end of said data bus, and the claim 15 is allowable because of the limitation such that means for controlling said switch with a detach control signal sent from a far end of said data bus". The examiner brought Pollard reference in the rejection for the limitations which are not provided by Huang, and all of the other art cited (See *Claim Rejections - 35 USC § 103*).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Frank et al. [US 6,212,641 B1] disclose method and apparatus for improving power characteristics in a system having a reduced power mode.

Gudan et al [US 6,256,682 B1] disclose signaling of power modes over an interface bus.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 703-305-5950. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Christopher E. Lee
Examiner
Art Unit 2189

cel/ *CEL*
December 2, 2002



SUMATI LEFKOWITZ
PRIMARY EXAMINER